**RCC Research I Allocation Request – Fall 2023**

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**Research Goals and Impact**

We are interested in income volatility and policies to mitigate its consequences. There are two projects which currently require the use of the RCC one of which is in revision, the other of which is in the draft stage.

In the first project (*Wealth, Race, Consumption*) (joint with Pascal Noel and Damon Jones) we study how households’ consumption responds to typical labor income shocks. We estimate how this varies by both race and wealth, with an aim of documenting inequalities in the effect of income volatility between these groups. Using the resources of the RCC we are in the process of contextualizing our findings in a two-asset structural model of consumption and savings to determine the differential welfare effects of the transitory volatility by race. This element of racial inequality is understudied, and understanding the size of the welfare gap and how it relates to wealth inequality offers a possible policy approach to reducing inequality between racial groups.

Our second project (*Earnings Volatility*) (joint with Pascal Noel and Damon Jones) is a descriptive paper that evaluates the extent and welfare implications of intra-employment income volatility. While earnings volatility arising from unemployment is the subject of significant scholarship, changes in income that arise during a single employment spell are understudied. We use high-frequency administrative bank account and payroll data to evaluate the extent and implications of earnings, hours, and wage volatility. Using the computing resources of the RCC we can contextualize our empirical findings in a structural model of consumption and savings to determine the welfare loss associated with volatile earnings. Understanding the magnitude of this loss will enable us to assess employees’ willingness to pay for smoothed earnings and evaluate policy avenues available to firms to help employees by smoothing their income.

**Results and Publications from Previous Allocation**

Last allocation cycle, we used 10.8% of our 50,000 SU allocation.

The list of published and submitted papers emerging from past allowance and citing RCC are as follows:

1. [US Unemployment Insurance Replacement Rates During the Pandemic](https://cpb-us-w2.wpmucdn.com/voices.uchicago.edu/dist/1/801/files/2018/08/1-s2.0-S0047272720301377-main.pdf). with Pascal Noel and Joe Vavra. 2020 in *Journal of Public Economics.*

**Resources Requested**

This cycle, we request 50 000 SUs and 0.5 TB storage.

The PI is not part of the Cluster Partnership Program.

**Justification for Request**

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| **Project** | **Description** | **Prior Results** | **Request** |
| *Wealth, Race, Consumption* | In the current draft of the paper, we present a basic consumption savings model estimated by allowing environmental parameters to differ by race. We are currently in the process of improving upon current results by estimating a two-asset model that allows for both liquid and illiquid savings. We are interested in the robustness of our welfare findings to parameters that have been calibrated from external data.  These will likely require a substantial number of estimations, noting that our model presently takes about 400 SU to converge. The two-asset model adds additional complexity.  The code for both models is written in Python 2 which we launch using the Anaconda module. We do not anticipate using partitions other than the broadwl. | Our current model is estimated using resources from the RCC. Additional computing resources will enable us to improve upon the current model. | 30 000 SUs |
| *Earnings Volatility* | We plan to use the resources of the RCC to estimate a structural model that will assess the welfare implications of our empirical findings. This model will be used to determine employees’ willingness to pay for non-volatile income and firms’ ability to provide non-volatile income as an amenity to employees.  We do not anticipate using partitions other than broadwl. | We have not yet used the RCC for this project | 20 000 SUs |
|  |  |  | 50 000 SUs |